

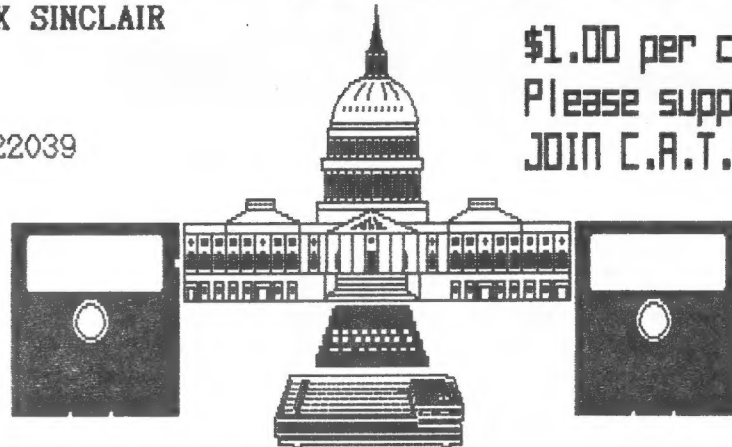
CATS

NEWSLETTER

CAPITAL AREA TIMEX SINCLAIR
USERS GROUP
P.O. Box 467
Fairfax Station, VA 22039

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VOLUME 9
NUMBER 3



October, 1988

TELECOMPUTING

Let your fingers do the walking and
your modem do the talking...

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Steve Greene	Mark Fisher
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PRESIDENTIAL RAMBLINGS

Just a few words to pass on. As you read this issue you will see that the bulk of it is the work of a handful of people. In many groups this is the case, so I guess our's is the rule rather than the exception. This is, however, something we will have to overcome if we expect to put on a Fest next May. It is asking too much to have a handful do everything while the rest sit back and do nothing. There is a great deal that must be done in the next few months so don't be surprised if you get asked. Remember, this isn't the military. Volunteering won't get you sent out on a dangerous mission with a 10% chance of survival. Try it !

If you came to the picnic, I know you had a good time and, if you didn't, you missed a fun afternoon. Many thanks to all who came. I'm already looking forward to next year's.

This month's theme is Telecommunications and I think you will be as interested as I am in hearing how to expand our horizons with the use of the modem. This seems to be the one area where we are not active but, with a little bit of luck, that should start to change.

See you at the meeting.
Bill

FROM THE EDITOR

If you weren't at the last meeting, you are probably confused at the new look of our newsletter. Over the past year I've been steadfast in my use of Desktop Publisher from Digital Precision. I've endured its many shortcomings because I felt that, as a Sinclair user group, it was our duty to demonstrate the utility of the hardware and versatility of the software being developed for Sinclair machines.

Several months ago I bought an Atari ST, because it looked like a real winner for desktop publishing, with a program called Publishing Partner. After playing around with that program, I realized that there were many things I didn't care for (and this goes for the Atari in general), so I used the machine very little. Then came Publisher ST by Timeworks. Concurrently, I began to realize how much time I was putting into the CATS newsletter. As I've said before, using a dtp program doesn't necessarily save time but, hopefully, insures a better looking product. The alternatives I faced were to spend less time with a lowering of the production standards I'd established or yield the Editor's chair to someone with more time. With the Atari running the Timeworks dtp program, I am able to spend less time and, hopefully, have the newsletter look even more professional.

Why the abrupt change? I was tired of waiting for Digital Precision to upgrade the program. Their first revision included many improvements but, in areas that I deem critical (ease of text file entry, etc.), failed to complete the job. Let's face it, a dtp program that handles graphics very well and has a variety of fonts but doesn't handle text files easily, has a very limited usefulness as a publishing program for anything but a one sheet flyer.

I would also like to assure everyone

that you can breathe easily, I have not given up the QL and, therefore, you will not be "tapped" for the Newsletter Editor position. Oddly enough, if the Atari hadn't come along I would seriously be considering stepping down as Editor. (Note to all those snickering in the background. I'm taking names. You might get "tapped".)

Now that True Confessions is out of the way, what does the rest of the issue contain?

Pieter van Dijk continues to explore the Z88. In this issue Pieter gives us a program to transfer files to the QL. Pieter's regular contributions on the Z88 give this newsletter an added dimension, in that we truly cover the entire line of Sinclair computers. I want to welcome Mark Fisher back. Is the summer yachting season over? Mark has a 2068 program that will have you saying, "I don't believe my eyes!" This month's feature speaker, Steve Greene, wrote an exceptionally detailed article on telecomputing. Due to space limitations, it will conclude next month. This is a topic which will take on added importance in the months ahead. In the near future, I will be set up to receive your newsletter articles over Ma Bell's lines into my computer. As our fest draws nearer, we will probably be setting up a bulletin board. Be sure to check out George Rey's program listing for the coming year. It is a masterpiece, as usual.

Don't forget to update your membership list from Ruth's Membership Corner.

I hope you enjoy this issue.



KEY DATES

OCTOBER

- 8 General Meeting
- 18 Executive Board Meeting
- 28 November N/L Deadline

NOVEMBER

- 12 General Meeting
- 22 Executive Board Meeting
- 25 December N/L Deadline

OCTOBER MEETING AGENDA

- 11:00 Hardware Workshop
- Word Processing Workshop with Mark Fisher
- 12:00 CYA Workshop
- 1:00 Lunch
- 2:00 General Meeting
- 2:45 Telecomputing with Sinclair Computers—Presented by Steve Greene
- 3:45 Open Discussion
- 4:30 Adjourn

NEWSLETTER SUBMISSIONS

Submissions for the newsletter can be in hard copy, with columns 2 1/4 inches wide or, preferably, magnetic media. For the QL, microdrive cartridge, 5 1/4" DS/DD or Quad density disks, or 3 1/2" disks. For the ZX81, TS1000, or 2068, cassettes only, with titles on the box.

Send material to:

Editor, CATS Newsletter

Box 467

Fairfax Station, VA 22039

CYA WORKSHOP

by George Rey

We have one-half of our projected data base established and up to date. We project that the local newspaper quotes and the weekly pub "U. S. Financial Data" a publication, available FREE upon request from "The Federal Reserve Bank of ST. Louis, P.O. Box 442, St. Louis, MO 63166" may be all the info updates needed to keep on the trail to Cibola.

This meeting we hope to have hands-on work-outs on how to export and import data to and from Abacus and Easel. Personally speaking, it isn't as smooth as the book suggests. For example, I export 2 decimal data to an Abacus export file only to find multidecimal presentations when I import it back. Why? Except for one of Quintero's experiences. I can only get one set of labels (x or y axis) to export with the data files, as witnessed thru their import. Help me, Help us! These problems and others and the procedures to minimize them will be our focus at this meeting.

On the data front, a discussion on miscellaneous data (Gold price, Commodity Research Bureau Index, and \$ Exchange Rate) will be discussed.

Finally, what is a secular economic (or Stock Market) trend and how is it perceived by the pro's and the amateurs? Come one, come all and plot the road to Cibola.



CATS NEWSLETTER

POTPOURRI

News around the Beltway

CATs Have Picnic Caper by Hank Dickson

The second annual CATS family picnic held Saturday, September 24 was again successful in drawing together an excellent cross-section of local Sinclair enthusiasts for a day of real-world activities.

About 25 CATS members, spouses, friends, offspring and visitors braved threatening skies to gather at the pleasantly isolated Laurel picnic area of Greenbelt National Park.

A huge variety of food was enjoyed throughout the day as participants drifted in and out as the mood struck them.

Only as the 4 o'clock closing time and menacing rain clouds approached simultaneously did the telling of war stories evolve to the 2400 baud level

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STAMP OUT PENCILS!

I (Mark Fisher) will be sponsoring a workshop on Word Processor problems during the workshop period of the October meeting. I can't promise that we'll vanquish your bugs, but if you're looking for a way to get your printer to do what you want, bring your WP (2068 or QL) and your printer manual to this month's meeting.

Problems with preparing "letter forms", setting up printer drivers, and anything else you can think of will be attempted.

Executive Rumblings

News from the Executive Board
Meeting

by Mike Warmick

9-20-88

People, we need your help. The report from the ComputerFest committee covered a review of Cleveland's fest. The club and vendors did well, giving us more ideas for next May. Hotel size, conference space, and vending areas are being worked out.

Also, a complaint. Too few of our members are on the committee. Everyone's help will be needed to pull our Fest off. **STOP SITTING ON YOUR HANDS!** Don't wait for the other guy to volunteer.

Programs are now set for the coming year, thanks to George Rey.

GROUP BUYS! Our Treasurer had major complaints about how disorganized the buys have been. Problems like prices changing in mid-buy and people changing their minds after the items were purchased. A solution was suggested but not voted on. This will be a continuing item with a possibility of an amendment to our Constitution being offered New business. The Executive Board viewed a video tape to help all you troubled QL owners, the first of our "Do It Yourself" series. I know your not interested!!!

ON A PERSONAL NOTE

I need your help. Does any one have a schematic for a RGB-to-composite video converter? If so send it to 4502 Eads Place, N.E., Washington, DC 20019.

Z88 PROGRAMS, TIPS, AND OTHER USEFUL INFO

by Pieter van Dijk

Useful information for the users of Uncle Clive's newest computer

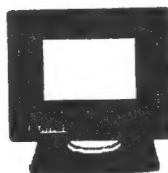
Transfer of files from the Z88 to the QL.

The following program can be used to transfer files with the Z88 Export menu to the QL. The file can be shown on the QL screen when being transferred. The program reads the incoming characters and sends them to a QL file. When a chr(13) is received a newline is generated. The control sequences from Import all start with chr(27) and are handled with the Select statement. For the codes see the Z88 Manual, page 190. The procedure SKIP is used to skip over the file name sent by the Z88. For next month, I will have the program for transfer from the QL to the Z88.

Peter van Dijk

```
100 REMark TRANSFER OF FILE
FROM Z88 TO QL
110 REMark WORKS WITH EXPORT
120 WINDOW 512,202,0,0:PAPER
O:INK 7
130 CLS:CLS#0:FLAG=0
140 AT#0,0,10:INPUT#0,'DEVICE
:;DEV$
150 INPUT#0,TO 10,'FILENAME
:;NAME$
160OPEN_NEW#4,DEV$&NAME$
170 INPUT#0,TO 10;'TO SCREEN ON
QL? (Y/N) 'CH$
180 IF CH$='Y':FLAG=1
190 OPEN#3,SER2
200 REPEAT LOOP
210 X$=INKEY$(#3)
220 IF X$=CHR$(27)
230 Y=CODE(INKEY$(#3))
240 SELECT ON Y
250 =78
260 SKIP
```

```
270 =69
280CLS#0:CLOSE#3:CLOSE#4:STO
P
290 END SELECT
300 X$=INKEY$(#3)
310 END IF
320 IF X$=CHR$(13)
330 IF FLAG:PRINT:END IF
340 PRINT#4
350 NEXT LOOP
360 END IF
370 PRINT#4,X$;
380 IF FLAG:PRINT X$;:END IF
390 END REPEAT LOOP
400 DEFINE PROCEDURE SKIP
410 REPEAT L
420 A$=INKEY$(#3)
430 IF CODE(A$)=27:EXIT L:END IF
440 END REPEAT L
450 A$=INKEY$(#3)
460 END DEFINE SKIP
```



MEMBERSHIP CORNER

by Ruth Fegley

Renewals:

BOWERS, Herbert J.
RUSSO, Philip
WASHINGTON, LeBaron H.

Reinstatement:

VANDERVALL, Jonathan
2710 macomb St. NW #309
Washington, DC 20008
202/686-9151 07/89

New:

MOORE, Tony Lorenzo
5601 N. 10th Street
Philadelphia, PA 19141
215/548-9421 07/89

Address Change:

FEGLEY, Ruth
Apt. E-1 6000 Ivydene
Terrace
Baltimore, MD 21209
301/542-2549

O'BRIEN, John B.
2401 Doral Circle
Lady Lake, FL 32659

TAPE LIBRARY INFORMATION

The C.A.T.S. tape library is available to all full (\$18) members. Prices, per cassette, are \$3.00 by mail or \$1.00 at the meeting.

C.A.T.S. does not have Public Domain software for sale.

Mail order requests, and submissions for publication, should be sent to the tape librarian:

Rev. John Riley
120 N. Fairlawn Dr.
Carrollton, GA 30117

Checks or money orders should be made payable to C.A.T.S.

We will continue to "compensate" contributors with one free cassette from the library.

TELECOMPUTING WITH TIMEX SINCLAIR COMPUTERS

by Steve Greene

I will be presenting a talk at the October meeting on how to get into the world of telecomputing using Timex/Sinclair computers. This article is a "teaser" of what's in store. If something seems confusing, don't worry - I'll cover this in more detail at the meeting, and you can always ask questions!

Other sources of good information are most of the major T/S and non T/S computer magazines. COMPUTER SHOPPER is a good source for general information and ads for suppliers. PC Magazine's July 1988 issue has an in-depth article on telecomputing.

WHAT IS "TELECOMPUTING"?

"Telecomputing" is a conjunction of the words "telecommunications" and "computing". Roughly translated, that means "using computers over great distances". In practice, you will need four pieces of equipment to participate in telecomputing: a computer, a modem, a telephone line, and special software for the computer to manage the whole ball of wax!

WHAT DO THESE THINGS DO?

The computer can be virtually anything - from a ZX-81 or TS-1000; through a 2068, QL, or Z88; a PC "clone" or Macintosh; up through a VAX or IBM mainframe (I'll stick to the T/S and other small personal computers!). The modem is a piece of hardware that translates the digital voltage signals used by the computer into multi-tone audio signals compatible with the telephone system. The modem MODULATES the signal from the computer to the phone line and DEMODULATES the signal from the line to the computer (hence the name, "modem").

The telephone line provides the physical connection between the telecomputing computers. You don't always have to have a phone line -

telecomputing via radio was demonstrated at a recent CATS meeting.

Probably the most crucial part of the setup is the software that manages the operation at each computer that's connected. Communications software programs have to control the modem's operation, control how information is sent to and from the computer and modem, handle the display of text and graphics, and allow the computer's user to easily supervise the operation without too much effort on his or her part.

Communications software can range from very simple "terminal emulators" that only allow displaying and sending plain text, to sophisticated programs allowing automated transfer of messages and files, to "computer bulletin board" programs that allow a computer to telecompute with other computers with no human intervention at all!

WHY SHOULD I BE INTERESTED IN TELECOMPUTING?

Why go to all this bother just to connect a computer to the telephone line? The whole reason for being for computers is to process information. The ability to connect your computer to other computers next door to thousands of miles away places an entire world of information within your grasp.

While telecomputing hasn't reached the scope of what some futurists have predicted, several benefits from telecomputing have already been achieved:

- o readily transfer data and programs from one computer into another;
- o exchange documents, pictures, and other data and programs in the time-span of a phone call;
- o create public forums for exchanging information and viewpoints on an

unlimited number of technical and social topics;

o make large databases of information on finance, news, business, literature, and other subjects accessible to anyone who can afford a computer;

o of particular interest to T/S enthusiasts, get help from and keep up-to-date with the latest news and software available for our computers with fellow enthusiasts all over the country.

You can use even the old ZX-81 or TS-1000 to explore the world of telecomputing. The more powerful 2068 and QL are extremely capable hardware for telecomputing, with features on a par with the popular MS-DOS systems.

WHAT'S "OUT THERE" ESPECIALLY FOR OWNERS OF T/S COMPUTERS?

Most of the T/S telecomputing activity is centered on T/S computer bulletin boards (BBS). A BBS is a computer with a modem running a special software program that allows it to operate without a human being present.

Like a paper-based" bulletin board, a BBS can be used to "post" messages for everyone to read and respond to. A BBS can also be used to exchange messages more-or-less privately between specific individuals, and to transfer programs and data files between computers.

Many different combinations of computers, modems, and software can communicate via a BBS - they only have to be able to communicate with the BBS itself. In effect, the BBS becomes a "universal translator" for the "Tower of Babel" that makes up the world of computers.

There are several BBSs that cater specifically to the T/S community. Unfortunately, none of them are local to Washington, DC. Most of them serve as electronic meeting places for metropolitan-area clubs (such as the

Continued on Page 9

WHAT A WIERD PROGRAM!

or, Fusion Power in Your Own Living Room for the 2068

by Mark Fisher

Want real excitement bunky? How about a program that produces two matching random-dot grey screens? Pretty exciting, huh? Well, yes, in a way. This program doesn't just make speckled screens. It then takes one of those speckled screens, and subtly shifts part of it. No visible change has occurred, but it is possible to use the organic parallel processor on top of our spine to decode the shift, and show us the shape, as either a raised or sunken contour.

♦ Theory

You have good vision if your eyes work, right? Wrong. You have good sight if your eyes work. If an Opthamologist puts drops in your eyes to measure acuity, he is



evaluating the performance of your eyeballs. Vision involves massive "image processing" by your mind. The twin images from the eyes, already processed to some extent, are analyzed to generate an internal three-dimensional model of your field of view. Various subtle cues are used to generate your internal model - the most important of which are the

differences between the two eyes' view of the scene. This stereo effect is familiar to anyone that has used a stereopticon or seen "Jaws 3D". Randot patterns, as Optometrists know them, depend upon the brain's ability to correlate millions of data points, and generate a simple theory to organize them. The random dots within the shape are shifted to the right in the rightmost image. To the mind, when comparing the two images as two views of one object, this would only occur if a smooth patterned surface were moved towards the viewer. When the mind has finally correlated the positions of all the points (in this program, up to 21,875 of them) your perception of what you are looking at will change radically, and the shape will appear. No amount of image analysis within one of the screens could generate the image. Only the mind's ability to imagine the shape of what is "really" out there allows you to see it. For you techno-buffs, try this: cut the screens apart, then after getting fusion, and seeing the shape, try rotating one of the screens SLOWLY. You should be able to fuse the two screens with up to a five degree skew! Try that on your optical character reader!

♦ Practice

If you have access to an old stereopticon, simply replace the photographic print slides with the printouts from this program. However, a viewer is not necessary. Stereo perception depends upon the fusion to the two images. That is, the eyes are pulled in until the images "overlap". This pulling-in is called convergence. In normal use of your eyes, you do this all the time.

By holding a finger 5" in front of your nose, you will notice that it takes a definite effort to shift your gaze from

this page to your finger. You may also notice that there were two transparent images of your finger when you looked at the page, which came together as you looked at the finger. If you hold a finger up at a greater distance, and pull in with your eyes in the same way, you will now see two fingers; the images from each eye are no longer superimposed. Now, if you hold two fingers up, it is possible to pull in in the same way, and see four fingers. By moving the fingers together, or by varying the "pull" you exert with your eyes, you can cause the two inner images to overlap, and end up "seeing" three fingers! The fingers will be blurry at first, but by thinking of the center image and relaxing, they will clear up. It is this same skill which will let you perceive the hidden shape. Holding the printout up, or regarding the screen, pull in until the third screen is clear and sharp. If one image is higher than the other, tip your head slightly to the side until they are at the same level, then fuse them.



Observe the individual pixels - scan from one corner to the other. There will be an area of "wrongness", that will gradually clarify into a clearly defined shape, raised from the background. By cutting out the printouts and reversing them, you will see the same pattern, but with a

Continued on Page 7

significant difference. You'll notice that I haven't told you what shape to expect -if you can get fusion, you'll see the shape. If you find the above directions easy to follow, try to look through the sheet to the far distance. Hold the cards farther away than you would expect, and use reading glasses if you have them. If you can fuse the two screens now, you will see a subtle change in the appearance of the pattern.

♦ The program

I've been free with REM's in the program, but there may be some areas that don't make sense. The program sequence is not obvious - I've moved the least used routines to the upper end, and the most often called subroutines to the front. Program flow is as follows: Upon loading, the program autostarts at 9800, setting up and loading the printer driver. RUN then transfers control to the expected sequence. The 7000's contain the setup lines and the main menu. At 7020, I load a prepared sample screen, then print the titles over it. Just drop this LOAD to simplify operation. You are offered the option of scanning the instructions (held in lines 8000-). The rather peculiar spacing of the instruction lines assures that they will land on the correct parts of the screen. Line 7050 establishes the line numbers of the various subroutines. (If you want to look at one of those subroutines after the program is loaded, just type "LIST move" for example.) Line 7180 keeps you from setting up a screen until you've selected a shape. Here the user is asked for a grain size. This variable determines the coarseness of the "pixels" used in the grey tone. Values of 1-3 produce useable screens for fusion, while values of 10-20 let you check the operation of the program quickly. At lines 7220-30, a screen is either drawn (6000) or LOADED (5000). If a new screen has been drawn, you are offered the option of SAVEing it. Files will be SAVED as "grain5.scr", for example,

for a screen of grain 5, to remind you to set the grain value correctly. Once you have taken the considerable time to generate a grain 1 or grain 2 screen, there is little need to generate another. It is much quicker to reLOAD a screen, then try a new shape on it. Then control passes to the "shift" sub (4000). Here, you must decide how far to slide the shape. This distance is expressed in pixels: If you select a value smaller than the grain size, nothing will happen. The farther the shape is slid, the farther it will stand out from the background - but it will also be harder to clearly fuse the image. The particular shape chosen is determined by the variable "shape" which is used as a subroutine vector (1000-). The "move" sub (2000) takes care of the mechanics of PLOTting and UNPLOTting on the 2068. The attempt is to exactly move each "pixel" within the shape. When the shape has been moved, you will have the option to print a hard copy, SAVE the screen, or try again. The SAVE routine at line 4110 generates file names such as gr-5shp.scr as a reminder of the correct grain size.

SAVE and LOAD commands are tailored for the AERCO disk system. If you're using tape, you'll have to change the lines that now contain either CAT or MOVE.

```
MOVE "xxxx.bas",9800 = SAVE
"xxxx" LINE 9800 MOVE "xxxx.scr",
= SAVE "xxxx" SCREEN$ LET
r$="xxx.scr""; MOVE "r$", = SAVE
r$ CAT "xxxx.bas", = LOAD "xxxx"
CAT "xxxx.scr",9800 = SAVE "xxxx"
SCREEN$
```

Likewise, COPY is invoked on my system with "RANDOMIZE USR 64628". There is also a corrected version of my "renum" program at 9000, and a short routine at 9500 to set up my printer for LLISTings.

Have fun, and don't strain your eyes! (You needn't worry about getting your eyes stuck crossed.)

♦ The Listing

```
10 REM by Mark Fisher - 1988
20 GO TO 7000
100 REM ***** fill *****
110 FOR i=0 TO grain-1
120   PLOT x,y-i: DRAW grain-1,0
130   PLOT x+130,y-i: DRAW grain-1,0
140 NEXT i
150 RETURN
1000 REM ***** test *****
1010 REM returns variable "ok"=1 if with
in given shape: "ok"=0 if not
1020 REM circle shape
1030 LET tx=x-62: LET ty=y-87
1040 LET ok=(tx*tx+ty*ty<2500)
1050 RETURN
1100 REM tower shape
1110 LET tx=x-60: LET ty=y-150
1120 LET ok=(tx*tx+ty*ty<40) AND (y>30)
1130 RETURN
1200 REM donut shape
1210 LET tx=x-62: LET ty=y-87
1220 LET n=tx*tx+ty*ty
1230 LET ok=(n<2500) AND (n>1000)
1240 RETURN
1300 REM square shape
1310 LET ok=x<100 AND x>20 AND y<145 AND
y>30
1320 RETURN
1400 REM box shape
1410 GO SUB 1300
1420 LET ok=ok AND (NOT (x<75 AND x>50 A
ND y<120 AND y>55))
1430 RETURN
2000 REM *** move ***
2010 REM shape development line: OVER 1:
PLOT x+1,y-1: OVER 0
2020 IF POINT (x,y)=POINT (x+disp,y) THE
N RETURN: REM if dest = point, no act
ion needed
2030 OVER POINT (x+disp,y): REM if desti
nation is inked in, erase it with OVER
0
2040 FOR i=0 TO grain-1
2050   PLOT x+130+disp,y-i: DRAW grain-1
,0
2060 NEXT i
2070 OVER 0
2080 RETURN
4000 REM *** shift shape ***
4010 INPUT "What displacement? (-5 - 20)
";disp
4020 LET disp=INT (disp/grain)*grain: RE
M reduce disp to even grain interval (d
isp MOD grain)
4030 REM shape development line: CLS: P
```

Continued on Page 8


```

LOT 0,175: DRAW 125,0: DRAW 0,-175: DRA
W -125,0: DRAW 0,175
4040 FOR y=175 TO 0+grain STEP -grain
4045 PLOT 126,y: DRAW 3,0
4050 FOR x=0 TO 125-grain STEP grain
4060 GO SUB shape: REM returns variab
le "ok" if within given shape
4070 IF ok THEN GO SUB move
4080 NEXT x
4085 OVER 1: PLOT 126,y: DRAW 3,0: OVER
0
4090 NEXT y
4100 PRINT #0;AT 1,0;"(C)OPY (S)AVE (ENT
) Try again ";: PAUSE 0
4110 IF INKEY$="s" OR INKEY$="S" THEN L
ET r$="gr-"+STR$ grain+"shp.scr",": MO
VE "r$",
4120 IF INKEY$="c" THEN PRINT #0;AT 1,0
;":
": RAN
DOMIZE USR 64628: REM AERCO screen grap
hics dump
4130 IF INKEY$=CHR$ 13 THEN RETURN
4140 GO TO 4100
5000 REM **** load screen ****
5010 CAT "",: INPUT "Load what file? ";r
$
5020 LET r$=r$+".scr",
5030 CAT "r$",
5040 RETURN
6000 REM *** draw random screen ****
6010 CLS
6020 PLOT 0,175: DRAW 125,0: DRAW 0,-175
: DRAW -125,0: DRAW 0,175
6030 PLOT 130,175: DRAW 125,0: DRAW 0,-1
75: DRAW -125,0: DRAW 0,175
6040 FOR y=175 TO 0+grain STEP -grain
6050 FOR x=0 TO 125-grain STEP grain
6060 IF RND>.5 THEN GO SUB fill
6070 NEXT x
6080 NEXT y
6090 PRINT #0;"Save screen? (S)ave/ENT "
;: PAUSE 0
6100 IF INKEY$="s" OR INKEY$="S" THEN L
ET r$="grain"+STR$ grain+".scr",": MOV
E "r$",
6110 RETURN
7000 REM ***** setup screen ****
7010 PAPER 0: INK 7: BORDER 2: CLS
7020 REM CAT "eye3.scr",: PRINT AT 5,0;
TAB 6;"Eyes ""TAB 12;"Versus ""TAB 20
;"Mind """: REM ERASE first statement
if no screen file available
7021 PRINT AT 5,0;TAB 6;"Eyes ""TAB 12;
"Versus ""TAB 20;"Mind ""
7030 PRINT TAB 8;"by Mark Fisher, 1988 "

```

```

7040 PRINT #1;"Instructions? (y-n) ";: P
AUSE 0
7050 LET s$="0": LET fill=100: LET move=
2000: LET shift=4000: LET load=5000: LE
T draw=6000: LET menu=7120: LET inst=80
00: LET query=8900: REM subroutines
7060 IF INKEY$<>"n" THEN GO SUB inst
7070 REM circle=1000
7080 REM tower=1100
7090 REM donut=1200
7100 REM square=1300
7110 REM box=1400
7120 CLS
7130 PRINT "Main Menu""Select shape:"
'"no shape selected""1) Circle""2) To
wer""3) Donut""4) Square""5) Box""
6) Draw Screen""7) Load Screen""8) S
TOP "
7140 OVER 1: INVERSE 1: PRINT AT VAL s$+
4,0;":
": INVERSE 0: OVE
R 0
7150 PAUSE 0: LET r$=INKEY$
7160 IF r$<"1" OR r$>"8" THEN GO TO men
u
7170 IF r$<"6" THEN LET shape=1000+((VA
L r$)-1)*100: LET s$=r$: GO TO menu
7180 IF s$="0" THEN GO TO menu
7185 IF r$="8" THEN CLS : PRINT " RUN
TO restart": STOP
7190 OVER 1: INVERSE 1: PRINT AT VAL r$+
5,0;":
": INVERSE 0: OVE
R 0: REM highlights selection
7200 INPUT "What grain size? (1-20) ";gr
ain
7210 REM grain= "pixel" size
7220 IF r$="6" THEN GO SUB draw
7230 IF r$="7" THEN GO SUB load
7240 GO SUB shift
7250 GO TO menu
7999 STOP
8000 REM *** intro ****
8010 CLS
8020 PRINT "This program will let you
explore the space between what you
SEE, and what you KNOW."
8030 PRINT "The screen will be split in
to two windows. By pulling your ey
es in (crossing them) you can superimpo
se the two screens, and see a third in t
he middle."
8040 PRINT "By relaxing, while attendin
g to the middle image, it will become cl
ear. At this point, if your mind's ab
ility to fuse images is well developed,
you will be able to see a hidden shape."

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8050 PRINT "While your eyes can only see
therandom dots on the screen, your min
d compares the masses of dataand synthe
sizes the image."
8060 GO SUB query
8070 PRINT "USING THE PROGRAM""You wil
l be asked for a grain size. This det
ermines the ""pixelsize used by the pro
gram."
8080)PRINT "Values above 5 provide qu
ick op-eration of the program, but poor
resolution of the completed fig-ure."
8090 PRINT "You then will be asked for
a displacement value. This deter- mi
nes the apparent relief bet- ween the
figure and the back- ground. Large va
lues will be harder to fuse."
8100 PRINT "Two identical screens will
then be built up. When they are com- pl
eted, you will have the option of saving
them. You can then re-load the screen
instead of creating a new one."
8110 GO SUB query
8120 PRINT "You can then try out variou
s shapes without waiting for a newsc
reen to be drawn each time."
8130 PRINT "Be sure to use the same gra
in size if you re-load the screen."
8140 GO SUB query
8150 RETURN
8900 REM *** query sub ***
8910 PRINT #1;"(C)opy-(N)ext page";: PAU
SE 0
8920 IF INKEY$="c" OR INKEY$="C" THEN R
ANDOMIZE USR 64628: REM COPY if not us
ing AERCO i/f
8930 CLS
8940 RETURN
8999 STOP
9000 REM *** renumber & save ***
9010 INPUT "Start ";start
9020 INPUT "End ";end
9030 IF end=9000 THEN LET end=9000
9040 INPUT "Start renumber using ";n
9050 LET x=PEEK 23635+256*PEEK 23636
9060 IF PEEK x*256+PEEK (x+1)<start THEN
GO TO 9110
9070 IF PEEK x*256+PEEK (x+1)>=end THEN
STOP
9080 POKE x,INT (n/256)
9090 POKE x+1,n-PEEK x*256
9100 LET n=n+10
9110 LET x=x+4+PEEK (x+2)+256*PEEK (x+3)

```

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```

9120 GO TO 9060
9500 REM set printer width
9510 INPUT "width ? ";n
9520 POKE 64259,n-1
9530 INPUT "Set Character type? ";r$
9540 POKE 64256,0: LPRINT CHR$ 27+r$: PO
KE 64256,1
9550 STOP
9800>CLEAR 64255:LET p=64261:POKE 26704
,INT (p/256):POKE 26703,p-(INT (p/256)*
256):CAT "prcode.BIN",64256
9810 PRINT "DRIVER LOADED & INITIALIZED"
: RUN
9900 OUT 244,1: MOVE "AutoEyes.BAS",9800
: REM : MOVE "prcode.BIN",64256,1111

```

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two Boston Computer Society T/S boards). Several T/S boards are special-interest conferences on larger systems (such as the Passaic, NJ BBS).

The biggest T/S board of all is the T/S conference on CompuServe. CompuServe is an "information utility", accessible for a fee based on the amount of time you use it. The T/S conference is a nation-wide meeting place for T/S enthusiasts. Recently, planning for starting SNUG (a North-America user group for T/S computers) has been the main feature of the weekly T/S conference. This illustrates one of the biggest advantages of telecomputing - enabling people across the U.S. to work together on a project for the price of a phone call! (Can you imagine trying to coordinate starting an enterprise like SNUG if all you had was the US Postal Snail or worse, had to fly to every meeting!?)

One of the biggest features of BBSs for non-T/S computers are the megabytes of software you can download. While there is a relative lack of similar software for T/S computers, there's still some pretty good stuff out there. Additionally, BASIC programs for other computers can be downloaded and modified to run on T/S computers.

Finally, T/S telecomputerists can participate in many non-T/S activities.

For example, many BBSs in the Washington area feature nation-wide conferences on subjects from Astronomy to Zoology, and almost anything in-between.

WHAT SPECIFICALLY DO I NEED TO BRING MY T/S COMPUTER INTO THE TELECOMPUTING AGE?

There are several options for telecomputing with T/S computers. For the ZX-81, TS-1000, and TS-1500, the simplest (and oldest) approach is to use the Westridge 2050 or Byte-Back modems. Both plug into the expansion port, and come with a limited communications software program. Another option is the Comlink I interface, which allows you to connect any "standard" external modem to the expansion port. The Comlink interface also includes a very basic terminal program in ROM.

The above options have two major limitations - they are slow speed (limited to 300 baud), and they use the standard 32 column screen. Since most non-T/S systems are set up to use 64 or 80 column screens, it can become VERY difficult to read what the BBS is sending you! The most recent option for the smallest T/S is the Z-Term 64 program from Silicon Mountain Systems. It fixes both problems. With the addition of an RS-232 interface, faster modems can be used. And 64 column displays are supported, making it far easier to read messages.

Options for the 2068 include the 2050 and Byte-Back modems. They have the same advantages and limitation as with the TS-1000 - easy to use, but slow and limited. The combination of the Z-SIO interface board and Specterm-64 communications software gives 2068 owners access to faster modems and better displays. This is probably the "standard" for 2068 telecomputing.

QL owners have plenty of choices. The QL comes with serial ports (although they are not-quite "industry standard"). Many different modems have been successfully used with the

QL, although sometimes a special interface product (the Modaptor) is needed to accommodate the idiosyncrasies of the QL's hardware.

The other item QL owners need is a good communications software program. Several are available from the usual QL accessory suppliers. The best programs support wide screen displays, faster (1200 and 2400 baud) speeds, and the ability to send and receive to tape or disk. These programs are as capable as the "big names" in the MS-DOS world.

I've used a ZX-81 (with a "real" keyboard) with the Comlink I interface and a 300 baud external modem I picked up at a computer flea market for \$15. The Comlink I costs about \$50. This is probably the least expensive way to sample telecomputing. I quickly found it fascinating and frustrating. The fascination came with my realization that I was entering a whole new world of information and ideas. The frustration was caused by my limited set-up. Trying to scan through a lengthy list of messages at 300 baud, with a 32 column display, and no ability to store the messages to read later "off line" takes a long time and is tough on the eyes!

A SHOPPING LIST FOR T/S TELECOMPUTING.

I don't have a 2068 or QL, so I cannot comment on first-hand experience with their capabilities. But based on my experience with CP/M and MS-DOS systems, here's what I would consider a solid set-up for T/S telecomputing:

For the 2068:

- o An external modem capable of at least 1200 baud (2400 baud is even better and doesn't cost much more).
- o An RS-232 interface (2068) that supports at least 1200 baud.
- o Communications software with at least 64 column display (80 column preferred), can capture text displayed

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ASK MANNIE—Chapter 3

Transcribed and reported by Hank Dickson

NOTE: The following is a continuation of the Q-and-A session originated in July by CATS member MANNIE QUINTERO, the reporting of which began in the August, 1988 CATS Newsletter.

Q: How do I get rid of "retrace lines" in RGB monitors?

A: According to Past President Tom Bent, the answer is to turn down the master gain in your monitor until the screen is black (a la Dan Rather), then "crank up" the gain on the three colors until the desirable combination is achieved. This is essentially a "level problem" which needs to be "balanced out". Also, it is a monitor problem, not a computer problem. Bring in your monitor sometime to a hardware session, and Tom can demonstrate how to do this fix. A certain amount of "diddling" is required, it always best to leave this in the hands of an expert diddler.

Q: What modifications do I need to be able to use a monitor with a TS-1000 or a 1500?

A: An excellent question, indeed!! Let me repeat: because of this request, CATS Newsletter Editor Vern Smith reprinted Mark Fisher's full-page article, "Driving a Monitor from the TS-1000", in the August 1988 issue. This article, featuring two illustrations, originally appeared in the April, 1985 CATS n/l. (I guess old classics never die!!) Fortunately, we all now have this information again for our own personal reference and use.

Q: Is there a way to use a floppy disk drive with a TS-1000 or a 1500?

A: Yes: get a Larkin or AERCO disk drive interface, the best remaining entries on the commercial market for linking floppy disk drives and the Sinclair family of computers. The newsletters we exchange with other user groups are kept in two or three large blue 3-ring binders and are available for you to look at during the

meetings. People who have reviewed these books recently say there is a wealth of information and opinion there about Larken and AERCO. It might be a good idea to check this source out yourself sometime soon.

EDITOR'S NOTE: If you are interested in Larken info, let me know. The Canadian groups with whom we exchange newsletters are full of Larken info. If there is interest, I will reprint it. Drop me a line and let me know.

Q: How can I connect a 2068 to a hi-fi system in order to listen to computer generated music?

A: Tom Bent says one option is to take the sound off a chip on the expansion board. Or, it is possible to take it right off the speaker by removing the speaker and jumping its wires to the input of the hi-fi system. The best, though, is to capture the sound chip output. It should be possible to set up a pin-out at the back of the 2068 to make this as painless as possible. We're not certain what adjustments might be needed with your hi-fi rig to be able to accept the 2068's output, but minimal amplification would no doubt be one of them.

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on the screen for later review, and allows transfer of text and binary files to and from your computer. Specterm-64 is the state of the art.

o "Serial" cable to connect the modem and RS-232 interface - make sure yours has the correct number of pins (9 or 25 are standard) and socket type (male or female) for your hardware.

For the QL:

o External modem - get a 2400 baud model if you can afford the extra \$25-\$50.

o Communications software. Most QL programs display 80 columns of text, can capture text displayed on the screen for later review, and allow transfer of text and binary files to and from your computer.

o Modaptor (if needed). Early QL communications software required one. I've read reports that the newer programs eliminate the need for it.

o "Serial" cable to connect the modem to your computer - make sure yours has the correct number of pins (usually 25 at the modem end and 9 at the QL end) and socket type (male or female) for your hardware.

For the Z88:

o External modem. The large number of MS-DOS laptop computers has spawned a number of small, lightweight, battery operated external modems. Most will work with the Z88.

o Serial cable to connect the modem and computer. Most of the new lightweight modems have a 25 pin connector, while the Z88 has a 9 pin connector.

o The Z88 has at least a limited communications program built-in. Hopefully, a full-featured program will become available soon.

There has been an "explosion" of availability of modems over the past year. I've seen decent 1200 baud modems for under \$100 and 2400 baud modems for \$120-\$150. See ads in almost any computer magazine, especially COMPUTER SHOPPER. Make sure you buy an EXTERNAL MODEM! Many of the least expensive modems are designed to be installed inside MS-DOS (PC "clone") systems, and are completely incompatible with anything else!

I recently purchased a good 2400 baud external modem from an advertisement in COMPUTER SHOPPER for \$120. It works with my ZX81, my NEC laptop, or any of the PC's at the office. The advantage of an external modem over the T/S-

To be continued next month

CATS MEETING PROGRAM SCHEDULE

By George Rey

Month	MEETING TOPIC	Speaker/Chair
Nov	The Z-88 in Action	van Dijk
Dec	Word Processing Review	Fisher
Jan	Programming with Pascal	Parker, D. (Olowofoyek)
Feb	Intercomputer Transfers	Quintero
Mar	Inter-club Exchanges	Warmick
Apr	Telecomputer-communications by Radio	Diggs (Russo)
May	CATS COMPUTER FEAST	All Us CATS (And Mouses)
Jun	Disc and other Drives	Bent
Jul	Computer Uses	Schaaf
Aug	Memory Expansions/Requirements	Jordan
	(What's Next Jamboree)	(Russo)
Sep	Complete TS 2068 Systems	Miller
Oct	Sinclair Computer Libraries	Barnhart
All Sinclair Hardware Workshop		Bent Inc.
All CYA QL Hands-on Abacus/Easel Workshop		Rey Inc.
All HELP! (Attendees S/H'ware ?'s — 10 minutes Russo Inc.		
* Spreadsheets — Experiences/Programming		Rey
The TS (CLASSIC) 1000		Osheroff
The Larken Interface		Warner
Guest Speaker — Whats New ?		
Vendors Bookkeeping/Budgets & Things		Fegley

Note: * = Bullpen reserves of topics and speakers. ()=Alternates.

The above is the tentative meeting topic schedule of programs for the coming year as approved by the executive board. It is based on the June "Soul" interest survey, is flexible and subject to change as conditions warrant. If you have been "chosen" to speak, chair, or to set up, conduct, or help set the programs, be grateful. If you are not contact me at (301) 262-2968 or at meetings to discuss what is involved to get a "4 F" classification or National Guard duty. Or, press ESCape. In any event contact me for suggestions or suggest topics or speakers for scheduling or of interest to you and CATS.

PICNIC-Continued from Page 3

of highly technological bits and bytes.

In the badminton competition, WENDY LEWIS, daughter of LLOYD and JANET LEWIS, teamed with close friend PATSY WUWUER to give TOM BENT's sons, JESSE and RICKY, a

real run for their money.

Profuse thanks are due VERNON SMITH for again organizing this special CATS event and to VERNON Jr. for all his help in setting things up and making the group's outing all the more enjoyable.

ADVERTS

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QL Trump Card (768K making 896K total; Disk Interface; Toolkit II; RAM Disk; Screen Dump; Printer Buffer; Memory Cut; documentation), \$ 275.00. **QL Cantronic Printer Interface**, \$ 30.00. **QL Color Monitor** (buffered, w/ case), \$ 75.00. **5 1/4" Disk Drive** w/ case and cable, \$ 60.00. **"War in the East"** (Master program & 3 scenarios), \$ 30.00.

Call Roy Johnson, 301/779-8636

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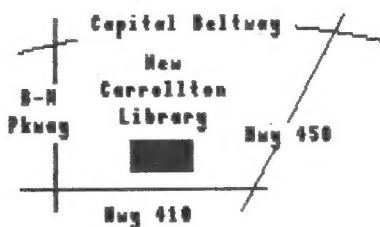
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The next meeting of CATS will be held on:

Saturday, October 8, 1988 11:00 AM Hardware Workshop; Word Processing Workshop
12:00 CVA Workshop 2:00 PM General Meeting

At: New Carrollton Public Library
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CATS maintains a gratis exchange of newsletters with approximately 30 users groups across the U.S. Clubs not sending a n/l to us for six months are automatically taken off the list.

Newsletters

Memberships cost \$18 per year, are good for 12 months, and include all privileges (access to libraries, group buys, etc.). A newsletter subscription only is available for \$12 per year.

Networks

Times BIG on Computers: Wednesday night, 10 P.M. Eastern time (60 CLUB).
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Meetings

Monthly meetings are held from 11 AM to 4:30 PM, on the second Saturday of each month, at the New Carrollton Public Library.